REMARKS

No claims have been cancelled. No claims have been added. Claims 1, 3, 4, 5, 6, 7, 14, 15, 16, 17, 19, 20, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 41, 44, 48, 49, 50, 51, 52, 62, 63, 67, 68, 69, 70, 73, 74, 75, 76, and 77 have been amended. Applicants submit that all amendments are supported by the application-as-filed and that no new matter has been added. Claims 1-77 remain in the application. Reconsideration of the application is requested in light of the foregoing amendments and following remarks.

Double Patenting

Claims 1-77 stand rejected for double patenting under the doctrine of obviousness-type double patenting respecting Application Serial Number 09/651,041. A terminal disclaimer is enclosed herewith, obviating this rejection.

Drawings Objection

The drawings were objected to as not showing the bond element contact lengths. Applicants respectfully traverse the objection and point the examiner to FIGURE 4 which shows the bond element contact lengths as element 84. To assist the examiner in this regard, the numeral "84" has been inserted in the respective claims where appropriate, in connection with the phrase "bond element contact length."

Rejection of Claims under 35 U.S.C. §112, 1st Paragraph

Claims 1-77 stand rejected under 35 U.S.C. §112 1ST Paragraph. Applicants respectfully traverse the rejection. Contrary to the examiner's statement, the specification does teach how to make and use the claimed invention. The structure of the respective bond elements is inherently disclosed in the plan view layouts of the respective elements in FIGURES 1A, 1B, and 2, in combination with the teaching of

the materials (page 14 line 7 to page 15 line 26, how to make the bonds (page 18 lines 7-24, and the statement (page 13 line 12) that the bond elements unite the sheets.

As to the amount of stress which is applied to the composite material, the stress referred to is stress which is imposed on the material in anticipated use. The amount of stress imposed at use depends on the specific nature of the use, and has no bearing on enabling a user to employ the invention. As with any article of commerce which is exposed to physical stresses, the article does not derive its identity from the stress to which it is exposed. Thus, by teaching how product of the invention is made, as above, illustrating an exemplary use as in FIGURE 2, the public is well enabled to put the invention to use.

Applicant agrees with the examiner that the specification does not limit the source or direction from which stress is imposed. However, the specification does teach exemplary stress 90 as being imposed on the bond pattern from outside the bond pattern. As to the X, Y, or Z direction of the stress, applicants contemplate no limits to the direction or source from which such stress can originate. Indeed, the direction or level of stress is not part of the invention, other than that the bond patterns of the invention increase ability of a given material combination to tolerate stresses.

Stated another way, the stress is not the invention. The invention is in a bonded composite of at least first and second flexible sheet materials, optionally incorporated into an absorbent personal care article. How to make such bonded composite is taught. The specification further describes an exemplary such personal care article in the form of a diaper illustrated in FIGURE 2. Exemplary orientation and layout of respective bond patterns are shown in FIGURES 1A and 1B.

Accordingly, applicants submit that the examiner's statement of lack of enablement is without merit on its face as the specification fully enables the public to make and use the claimed invention. Thus, the examiner's rejection under 35 U.S.C. §112 first paragraph is in error and must be withdrawn.

Rejection of Claims under 35 U.S.C. §112, 2nd Paragraph

Claims 1-76 stand rejected as being indefinite. Applicants respectfully traverse the rejection. Each of the examiner's issues is addressed herein in the order raised in the Office Action.

Claim 1 - "as a first thin-section element, a first layer of thin-section sheet material" was held indefinite. This language has been amended to read a first flexible sheet material, which is definite, thereby obviating this rejection. The second element (second sheet material) has been treated in the same manner, also obviating the rejection of that element. Withdrawal of the rejection is respectfully requested.

Regarding the last paragraph on page 3 of the Official Action - the examiner asked how the various bond elements differ from each other. Applicant hereby states that the various bond elements e.g. stress receptor elements, transfer and dissipation elements, are exactly as described in the specification and drawings. All are fabricated in the same manner, namely in the conventional manner of making spaced bonds between two sheets, whether thermal bonding, ultrasonic bonding, adhesive bonding, and the like. The difference between the respective bond classes is in e.g. location, size, shape and orientation, as shown in the drawings and discussed in the specification.

The examiner refers to the bonds as indentations or embossments. The examiner is not getting these words from the application. Applicants caution the examiner against adding to what is written in the specification. The bond elements are exactly that, as clearly set forth in the specification. Yes, the process of fabricating the bond elements can produce slight surface irregularities in the sheet materials. And indeed, the bond elements of the invention can be accompanied by embossments at the same location. However, the bond elements of the invention do not rely on embossments or indentations for their identity of function. Withdrawal of the rejection is respectfully requested.

Again at the top of page 4, the examiner focuses on the nature of the stresses. The nature of the stresses does not matter in terms of how the bond pattern operates to share the stresses imposed. Indeed, a feature of the bond patterns of the invention is that the strength of the bond interacts with whatever stress is imposed during use of the product.

Regarding how the stress termination elements differ from the stress receptor elements and the transfer and dissipation elements, again the different types of bond elements are distinguished on the basis of e.g. location, size, shape and orientation. The layer-to-layer structure of the different bond elements need not be different, though such different bond elements can employ different layer-to-layer structure if desired. Similarly, the method of fabricating such different bond elements is typically the same, though different methods can be used. Withdrawal of the rejection is respectfully requested.

The examiner states that claims which merely set forth desired characteristics are vague, indefinite, and functional. Applicant submits that the claims do indeed set forth structure in terms of flexible sheet materials which are bonded to each other by bond having specified characteristics and properties. The bonds, and methods of making desired bond patterns, as well as the performance of such bond patterns, are set forth in the specification and drawings. Accordingly, the examiner's rejections under paragraph 5 are without merit and must be withdrawn. Withdrawal of the rejection is respectfully requested.

Turning to paragraph 6 at the bottom of page 4 of the Official Action, the side edges are now positively recited in each independent claim.

The examiner expressed concern that it is not clear what section of the bond pattern absorbs and dissipates stresses received into the bond pattern. The specification teaches that the bond elements as described and claimed direct stresses from the side edges of the bond pattern inwardly where (first and second) flexible sheet materials between the two side edges distribute the stresses within the bond pattern. By so strategically locating the bond elements, and by appropriately configuring and orienting the bond elements, the stresses are distributed along the width of the bond pattern, rather than being focused largely at the side edges. This concept is illustrated in FIGURE 1A at 92. Thus, a stress is passed into the bond pattern where there is greater X-Y distribution of the stress, rather than passing the stress from one edge element (stress receptor element) to the next edge element is sequence as is done by conventional point/circle-dominated bond patterns.

Applicants further point out that the claims have been amended to recite that the bond pattern occupies less than all the area of at least one of the flexible sheet

materials. Thus, in the invention, there is a bonded portion of the sheet material and an unbonded portion of the sheet material. In that context, the bond pattern typically receives stresses at the edge of the bond pattern, as at the linear bond pattern illustrated in FIGURE 2. Withdrawal of the rejection is respectfully requested.

At the bottom of page 5 of the Office Action, the examiner addressed the "bond pattern reflecting application of force....." This statement in the claim refers to application of force as the bond patten is being fabricated in bonding the first and second sheet materials to each other. Each of the independent claims has been amended to so recite during formation of the bond pattern, obviating the rejection. Withdrawal of the rejection is respectfully requested.

Page 6 first full paragraph of the Official Action again addresses the side edges as being indefinite. As set forth above, the side edges are now positively recited. Further, the interior portion is also positively recited in the independent claims, providing proper antecedent basis for the respective dependent claims. Withdrawal of the rejection is respectfully requested.

Bottom of page 6 of the Official Action, the examiner expressed concern regarding whether the bonds are "activated" from latent forms of bonds. Applicants state that the examiner has asked a question without defining the key word "latent." In any event, applicants respond to the question to the best of their understanding of the question. Namely, any thermal or ultrasonic bonding represents "activation" of the material so bonded, as such material is susceptible to formation of bonds at any location where the proper activating characteristic is implemented. Thus, applying ultrasonic energy activates the underlying material to form bonds in response to the energy applied. The same can be said for thermal bonding. Also the same can be said for adhesive bonding wherein the only difference is that chemical energy is applied in place of thermal or ultrasonic energy. Withdrawal of the rejection is respectfully requested.

If the examiner's question is whether some additional inactive material is used with the materials illustrated, to define locations where bonds are to be formed when e.g. an activation energy is applied to an overall area of a material, applicants state that such is not a requirement of the invention, but neither is such process precluded from being used in combination with, and as an auxiliary of the invention.

Claim 5 lines 3-5, and all related claims, the phrase including polyethylenes and polypropylenes was exemplary but, to avoid confusion, has been deleted. Withdrawal of the rejection is respectfully requested.

Claim 6, proper antecedent basis has been provided in Claim 1, and all other independent claims for "interior portion of the web", both in Claim 6 and in all other related claims.

Page 7 last paragraph, referring to Claim 7, the examiner expressed that a defined set of bond elements spaced according to a generally fixed segment pattern is not clear. Claim 7 has been amended to recite, in each pattern segment, a pattern of bond elements common to the respective bond segments. Claim 7 further recites that the bond segments extending along a length of the bond pattern. Thus, the pattern segments represent longitudinally repeated iterations of the bond pattern, whereby a first such pattern segment can be laid over a second such pattern segment, with complete matching of the respective pattern segments.

Regarding how the set of bond elements is defined and what elements make up the set of bond elements - such decisions are independent of the invention, and can be specified by the user within the context of the claimed invention.

The examiner considered "generally fixed segment pattern" as being unclear. This phrase has been deleted obviating the rejection. Withdrawal of the rejection is respectfully requested.

Regarding Claim 7 lines 9-13, and 14-15, applicants' responses are the same as for Claim 1.

Regarding Claim 7 and the angle of 10-65 degrees, the side edges are now definitely recited, obviating the rejection.

Regarding "pattern width" versus "bond width" as expressed in Claim 7, pattern width is expressed as a 2-dimensional parameter in combination with the length of the bond pattern, whereas, "bond width" is expressed at a given point along the length of the bond pattern. Thus, the pattern width along the length of the pattern can include an infinite number of potential bond width readings.

Referring now to the sentence bridging pages 8-9 of the Office Action, the examiner expresses concern that the "bond element contact length" is not clear. Applicant respectfully refers the examiner to the drawings at FIGURE 4 element 84,

and to the specification page 19 line 18 to page 20 line 8. Namely, the bond element contact length is that portion of an imaginary line 80 where the line crosses a bond element. Lines 80 can be any spacing. Spacing of .008 is noted in the specification, and is illustrated in the table of FIGURE 5.

Applicants submit that the various rejections of Claim 7 have thus been appropriately dealt with. Withdrawal of the rejection of Claim 7 on all bases of 35 U.S.C. 112 second paragraph is respectfully requested.

The rejection of Claims 8 and 9 is noted and traversed. The basis of traverse s the same as noted for Claim 7 above.

Regarding Claim 10, the side edges have been positively recited as noted with respect to Claim 1 above.

With regard to Claims 14-15, see the answers respecting Claims 3-4 above.

With regard to Claim 16, see the answer respecting Claim 5 above.

With regard to Claim 17, see the answer respecting Claim 6 above.

With regard to Claim 19, the examiner states that power distribution is not clear. Claim 19 has been amended to recite that the power distribution (which is an expression of electrical energy in the ultrasonic bonding apparatus) refers to the process of forming the bond pattern. See page 20 line 9 to page 21 line 11, and FIGURE 6, for the context of power distribution as a valuable feature of bond patterns of the invention. This power distribution is entirely different, no relation, to the stress imposed on the bond pattern in use, and to the physical force imposed on the sheet materials while the bonds are being formed.

The examiner correctly states that Claim 19 compares the variation in composite contact lengths to "the average" composite contact length, and asks the source of the average. Claim 19 clearly states that the variation is compared to the average for "the bond pattern" of interest. A given bond pattern typically has, as illustrated in FIGURES 4-6, a variety of composite contact lengths as one moves along the length of the bond pattern. That variety defines an average, as shown in FIGURE 6, as well as upper and lower ends of a range, also illustrated in FIGURES 5 and 6. The variation referred to in Claim 19 is that increment between the upper end of the range and the average, and between the lower end of the range and the average. Applicants submit that such is clearly set forth in Claim 19, whereby Claim 19 is clear and definite. Withdrawal of

the rejection of Claim 19 on the basis of 35 U.S.C. §112 2d paragraph is respectfully requested.

With regard to Claim 20, see the answer respecting Claim 1 above.

With regard to Claims 24-25, see the answer respecting Claims 3-4 above.

With regard to Claim 26, see the answer respecting Claim 5 above.

With regard to Claims 27-28, see the answer respecting Claim 6 above.

With regard to Claim 29, the side edges are now positively recited.

With regard to Claim 30, see the answer respecting Claim 1 above.

With regard to Claims 31-32, see the answer respecting Claims 3-4 above.

With regard to Claim 33, see the answer respecting Claim 5 above.

With regard to Claim 34, see the answer respecting Claim 6 above.

With regard to Claim 35, see the answer respecting Claims 1 and 19 above.

With regard to Claim 36, see the answer respecting Claim 1 above.

With regard to Claim 41, see the answer respecting Claims 1 and 7 above.

With regard to Claim 44, see the answer respecting Claim 1 above.

With regard to Claims 48-49, see the answer respecting Claims 3-4 above.

With regard to Claim 50, see the answer respecting Claim 6 above.

With regard to Claim 51, see the answer respecting Claim 5 above.

With regard to Claim 62, see the answer respecting Claim 19 above.

With regard to Claim 63, see the answer respecting Claim 1 above. Proper antecedent basis is now provided for "the interior portion."

With regard to Claims 67-68, see the answer respecting Claims 3-4 above.

With regard to Claim 69, see the answer respecting Claim 5 above.

With regard to Claim 70, see the answer respecting Claim 6 above.

With regard to Claim 71, proper antecedent basis is now provided for the "interior" of the bond pattern. The boundaries are all loci between the side edges.

With regard to Claim 73, see the answer respecting Claim 63 above.

With regard to Claims 74-75, see the answer respecting Claims 3-4 above.

With regard to Claim 76, see the answer respecting Claim 5 above.

With regard to Claim 77, see the answer respecting Claim 6 above.

Rejection of Claims under 35 U.S.C. §102(b)

Claims 1-6, 30-34, and 73-77 stand rejected as unpatentable over McCormack et al, WO 99/14415. Applicants respectfully traverse the rejection.

Applicants have clearly distinguished stress receptor elements and transfer and dissipation elements from each other, in terms of the respective separate and distinct physical features set forth above, and in the specification. The examiner has shown no such separate and distinct features in the reference, whereby the reference is defective on its face as basis for rejecting the instant claims, and such rejection must be withdrawn.

However, in order to move the case toward allowance, the claims have been amended to recite that the area of rte bond pattern is less than the area of at least one of the flexible sheet materials which are being bonded together by the bond pattern. Accordingly, at least part of the area of at least one of the flexible sheet materials is not coextensive with the bond pattern, whereby a side edge of the bond pattern is not coextensive with a respective side edge of the sheet material.

A key feature of the invention is that stresses received through the sheet material but from outside the bond pattern are dissipated with improved efficiency through implementation of bond patterns of the invention. Thus, an unbonded portion of at least one of the sheet materials is necessary in the invention. The reference does not teach or suggest such structure, whereby the reference is defective to teach or suggest the invention as claimed.

Applicants thus submit that all claims as presented herein are allowable over all references of record. Allowance is respectfully solicited. No fee is believed to be due for the amendment submitted herein. A fee of $110 is due for the Terminal Disclaimer. A check for $100 is accordingly enclosed for the Terminal Disclaimer fee. Should any other fee be properly due, or if any refund is due, kindly charge same, or credit any overpayment, to Deposit Account 23-2130.

Please feel free to contact me with any questions, comments or concerns, at the telephone number listed at the end of this document.

Respectfully submitted,
Timothy James Blenke et al.

By: Thomas D. Wilhelm

Thomas D. Wilhelm
Attorney for Applicants
(Reg. No. 28,794)

Customer Number: 23482

October 8, 2002
100 W. Lawrence Street, Third Floor
Appleton, Wisconsin 54911
920-831-0100
FAX: 920-831-0101

APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Kindly amend Claims 1, 3, 4, 5, 6, 7, 14, 15, 16, 17, 19, 20, 24, 25, 26, 27, 30, 31, 32, 33, 34, 35, 41, 44, 48, 49, 50, 51, 52, 62, 63, 67, 68, 69, 70, 73, 74, 75, 76, and 77 as follows.

1(Amended). A bonded composite, comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces, said first flexible sheet material being suitable for use in a personal care absorbent article; [and]

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the third and fourth major surfaces, said second flexible sheet material being suitable for use in a personal care absorbent article; and [thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,]

(c) a multiplicity of bond elements defining bonds bonding said first and second flexible sheet materials to each other in a bond pattern,

the bond pattern having a pattern length, [a pattern width represented by] and first and second side edges, the pattern length and the side edges, in combination, defining a

third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges [of the bond pattern], and a central longitudinal axis[, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern],

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other,

(d[c]) as ones of said bond elements, a first sub-array of longitudinally-oriented separate and distinct stress receptor elements disposed proximate the side edges of the bond pattern, and spaced at first distances from each other along the length of the bond pattern, the side edges of the bond pattern being defined generally between outwardly-disposed sides of sequentially-adjacent ones of said stress receptor elements, and

(e[d]) as ones of said bond elements, a second sub-array of longitudinally-oriented separate and distinct transfer and dissipation elements disposed inwardly of the side edges and inwardly of the stress receptor elements, and at second distances from the stress receptor elements less than the spacing of respective ones of the stress receptor elements from each other.

3(Amended). A bonded composite as in Claim 1 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

4(Amended). A bonded composite as in Claim 1 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials [thin-section elements].

5(Amended). A bonded composite as in Claim 1 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and copolymers, mixtures, and blends of said [such] polymeric materials.

6(Amended). A bonded composite as in Claim 1 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior [portion] of the respective web.

7(Amended). A bonded composite, comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces, said first flexible sheet material being suitable for use in a personal care absorbent article; [and]

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the third and fourth major surfaces, said second flexible sheet material being suitable for use in a personal care absorbent article, and being [thin-section element] bonded to the first flexible sheet material [thin-section element] by bond elements defining an elongate [a] bond pattern, the elongate bond pattern having regularly repeating bond segments along a length thereof, the bond elements in each bond segment being[, each repeating bond segment comprising a defined set of bond elements] spaced from each other according to a [generally fixed segment] pattern of bond elements common to the respective bond segments,

the bond pattern having a pattern length, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges, [of the bond pattern,] and a central longitudinal axis, [the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,]

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form, as the repeating bond segments, an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each

other, ones of said transfer and dissipation elements extending across the width of said bond pattern, from loci proximate the side edges, at angles of between about 10 degrees and about 65 degrees with respect to the longitudinal axis,

a bond width being defined by a distance between the first and second side edges [the width of the pattern] perpendicular to the longitudinal axis, including spaces between bond elements, at any point along the length of the pattern, such bond width extending along the pattern width, bond element contact lengths (84) being correspondingly defined along the bond width, the composite of the bond element contact lengths (84) along a respective bond width defining a composite contact length for the respective bond width, the composite contact length, taken at equally spaced intervals along the length of the bond pattern, defining an average composite contact length, the composite contact length at a given point along the length of the pattern varying from the average composite contact length by no more than about 13 percent.

14(Amended). A bonded composite as in Claim 7 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

15(Amended). A bonded composite as in Claim 7 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials [thin-section elements].

16(Amended). A bonded composite as in Claim 7 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and copolymers, mixtures, and blends of said [such] polymeric materials.

17(Amended). A bonded composite as in Claim 7 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior of the respective web.

19(Amended). A bonded composite as in Claim 7 wherein increases and decreases in power distribution across the width of the bond pattern, as the bond pattern is being formed, define variations in composite contact lengths as compared to the average composite contact length for a given bond pattern for at least a complete circumferential rotation of a rotary anvil, wherein variations in composite contact lengths of the bond pattern reflect no more than about 13 percent of the average composite contact length of the bond pattern throughout the complete circumferential anvil rotation.

20(Amended). A bonded composite, comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces, said first flexible sheet material being suitable for use in a personal care absorbent article; [and]

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the third and fourth major surfaces, said second flexible sheet

material being suitable for use in a personal care absorbent article; and [thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,]

(c) a multiplicity of bond elements defining bonds bonding said first and second flexible sheet materials to each other in a bond pattern,

the bond pattern having a pattern length, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials are outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges [of the bond pattern], and a central longitudinal axis, [the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,]

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other,

(d[c]) as ones of said bond elements, a first sub-array of longitudinally-oriented separate and [,] distinct[, and spaced] stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, the side edges of the bond pattern being defined generally between outwardly-disposed sides of sequentially-adjacent ones of said stress receptor elements, and

(e[d]) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having spaced first and second ends, and legs extending from the respective first and second ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs, joined to each other, between said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern.

24(Amended). A bonded composite as in Claim 20 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

25(Amended). A bonded composite as in Claim 20 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials [thin-section elements].

26(Amended). A bonded composite as in Claim 20 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and copolymers, mixtures, and blends of said [such] polymeric materials.

27(Amended). A bonded composite as in Claim 20 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior of the respective web.

30(Amended). A bonded composite, comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces, said first flexible sheet material being suitable for use in a personal care absorbent article; [and]

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the third and fourth major surfaces, said second flexible sheet material being suitable for use in a personal care absorbent article; and [thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,]

(c) a multiplicity of bond elements defining bonds bonding said first and second flexible sheet materials to each other in a bond pattern,

the bond pattern having a pattern length, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective

said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges [of the bond pattern], and a central longitudinal axis, [the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,]

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other,

(d[c]) as ones of said bond elements, a first sub-array of longitudinally-oriented separate and[,] distinct[, and spaced] stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, the side edges of the bond pattern being defined generally between outwardly-disposed sides of sequentially-adjacent ones of said stress receptor elements, and

(e[d]) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements spaced along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having first ends disposed on the interior of the bond pattern, said respective transfer and dissipation elements extending to second ends adjacent the side edges of the bond pattern between respective ones of said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern, and dissipating such stresses on the interior of the bond pattern.

31(Amended). A bonded composite as in Claim 30 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

32(Amended). A bonded composite as in Claim 30 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials [thin-section elements].

33(Amended). A bonded composite as in Claim 30 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and copolymers, mixtures, and blends of said [such] polymeric materials.

34(Amended). A bonded composite as in Claim 30 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior of the respective web.

35(Amended). A bonded composite, comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second

major surfaces, said first flexible sheet material being suitable for use in a personal care absorbent article; [and]

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the third and fourth major surfaces, said second flexible sheet material being suitable for use in a personal care absorbent article, and being [thin-section element] bonded to the first flexible sheet material [thin-section element] by bond elements defining an elongate [a] bond pattern, the elongate bond pattern having regularly repeating bond segments along a length thereof, the bond elements in each bond segment being[, each repeating bond segment comprising a defined set of bond elements] spaced from each other according to a [generally fixed segment] pattern of bond elements common to the respective bond segments,

the bond pattern having a pattern length, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges, [of the bond pattern,] and a central longitudinal axis, [the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,]

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each

other in face-to-face relationship to form, as the repeating bond segments, an array of separate and[,] distinct[, and spaced] elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other,

a bond width being defined by the width of the pattern perpendicular to the longitudinal axis, including spaces between bond elements, at any point along the length of the pattern, such bond width extending along the pattern width, bond element contact lengths (84) being correspondingly defined along the bond width, the composite of the bond element contact lengths (84) along a respective bond width defining a composite contact length for the respective bond width, the composite contact length, taken at equally spaced intervals along the length of the bond pattern, defining an average composite contact length,

a steady power distribution across the width of the bond pattern, as the bond pattern is being formed, defining minimum variations in composite contact lengths as compared to the average composite contact length for the bond pattern for at least a complete circumferential rotation of a rotary anvil reflecting the bond pattern, wherein variations in composite contact lengths of the bond pattern reflect no more than about 13 percent of the average composite contact length of the bond pattern throughout the complete circumferential anvil rotation.

41(Amended). An absorbent article having a front portion and a rear portion, and a crotch portion extending between said front portion and said rear portion, said absorbent article comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces;

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the third and fourth major surfaces; and [thin-section element bonded to the first thin-section element by bond elements defining a bond pattern;]

(c) a multiplicity of bond elements defining bonds bonding said first and second flexible sheet materials to each other in a bond pattern, and

(d[c]) an absorbent core disposed adjacent at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element],

the bond pattern having a pattern length including a central longitudinal axis, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges [of the bond pattern, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern],

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other, ones of said bond elements extending across the width of said bond pattern, from loci proximate the side

edges, at angles of between about 10 degrees and about 65 degrees with respect to the longitudinal axis,

a bond width being defined across the width of the bond pattern perpendicular to the longitudinal axis, including spaces between bond elements, at any point along the length of the pattern, such bond width extending along the pattern width, bond element contact lengths (84) being correspondingly defined along the bond width, the composite of the bond element contact lengths (84) along a respective bond width defining a composite contact length for the respective bond width, the composite contact length, taken at equally spaced intervals along the length of the bond pattern, defining an average composite contact length, the composite contact length at a given point along the length of the pattern varying from the average composite contact length by no more than about 13 percent.

44. An absorbent article as in Claim 41, said bond pattern comprising

(i) [as first ones of said bond elements,] a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length of the bond pattern, proximate the side edges of the bond pattern, and

(ii) [as second ones of said bond elements,] a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective transfer and dissipation elements having spaced first and second ends, and legs extending from the respective ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs between said stress receptor elements.

48(Amended). An absorbent article as in Claim 41 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

49(Amended). An absorbent article as in Claim 41 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials [thin-section elements].

50(Amended). An absorbent article as in Claim 41 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior of the respective web.

51(Amended). An absorbent article as in Claim 41 wherein said first flexible sheet material [thin-section element] comprises an outer cover, wherein said second flexible sheet material [thin-section element] comprises a body side liner, and wherein at least one of said outer cover and said body side liner comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and mixtures, copolymers, and blends of said [such] polymeric materials.

52(Amended). An absorbent article as in Claim 41 wherein said second flexible sheet material [thin-section element] comprises a body side liner and wherein said body side liner comprises material selected from the group consisting of porous foams, reticulated foams, apertured polymeric films, polymeric fibers, and natural fibers.

62(Amended). An absorbent article as in Claim 41 wherein increases and decreases in power distribution across the width of the bond pattern, as the bond pattern is being formed, can be defined by variations in composite contact lengths as compared to the average composite contact length for a given bond pattern for at least a complete circumferential rotation of a rotary anvil, wherein variations in composite contact lengths of the bond pattern reflect no more than about 13% of the average composite contact length of the bond pattern throughout the complete circumferential anvil rotation.

63(Amended). An absorbent article having a front portion and a rear portion, and a crotch portion extending between said front portion and said rear portion, said absorbent article comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces;

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the first and second major surfaces; [thin-section element bonded to the first thin-section element by bond elements defining a bond pattern;]

(c) a multiplicity of bond elements defining bonds bonding said first and second flexible sheet materials to each other in a bond pattern, and

(d[c]) an absorbent core disposed adjacent at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element],

the bond pattern having a pattern length including a central longitudinal axis, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges [of the bond pattern, the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern],

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other,

(e[d]) as ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, and

(f[e]) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements disposed along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having spaced first and second ends, and legs extending from the respective first and second ends toward each other and outwardly of the longitudinal axis along the length of the bond pattern to outwardly-disposed portions of said legs between said stress receptor elements, the stress transfer and

dissipation elements directing stresses inwardly into the interior of the bond pattern.

67(Amended). An absorbent article as in Claim 63 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

68(Amended). An absorbent article as in Claim 63 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials [thin-section elements].

69(Amended). An absorbent article as in Claim 63 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and copolymers, mixtures, and blends of said [such] polymeric materials.

70(Amended). An absorbent article as in Claim 63 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior of the respective web.

73(Amended). An absorbent article having a front portion and a rear portion, and a crotch portion extending between said front portion and said rear portion, said absorbent article comprising:

(a) [as a first thin-section element,] a first flexible [layer of thin-section] sheet material having first and second opposing major surfaces, the first and second major surfaces defining a first overall area of said first flexible sheet material, and a first web interior between the first and second major surfaces;

(b) a second flexible sheet material having third and fourth opposing major surfaces, the third and fourth major surfaces defining a second overall area of said second flexible sheet material, and a second web interior between the first and second major surfaces; [thin-section element bonded to the first thin-section element by bond elements defining a bond pattern,]

(c) a multiplicity of bond elements defining bonds bonding said first and second flexible sheet materials to each other in a bond pattern, and

(d[c]) an absorbent core disposed adjacent at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element],

the bond pattern having a pattern length, and [a pattern width represented by] first and second side edges, the pattern length and the side edges, in combination, defining a third area of the bond pattern, the third area of the bond pattern being smaller than at least one of the first and second areas of the respective first and second flexible sheet materials such that a portion of at least one of the first and second areas of respective said first and second flexible sheet materials is outside the bond pattern, the bond pattern having a bond pattern interior between the first and second side edges, and a pattern width between the first and second side edges [of the bond pattern], and a central longitudinal axis, [the side edges of the bond pattern being defined generally by those areas of the respective thin-section elements which participate in absorbing and dissipating, by operation of the bond pattern, stresses received into the bond pattern,]

the bond pattern reflecting application of force, during formation of the bond pattern, urging the first and second flexible sheet materials [thin-section elements] toward each other in face-to-face relationship to form an array of separate, distinct, and spaced elongate bond elements in a repeating arrangement affixing said first and second flexible sheet materials [thin-section elements] to each other,

(e[c]) as ones of said bond elements, a first sub-array of longitudinally-oriented separate, distinct, and spaced stress receptor elements disposed along the length, and proximate the side edges of, the bond pattern, and

(f[d]) as ones of said bond elements, a second sub-array of longitudinally-oriented separate, distinct, and spaced transfer and dissipation elements spaced along the length of the bond pattern, inwardly of the side edges of the bond pattern and generally inwardly of the stress receptor elements, respective said transfer and dissipation elements having first ends disposed on the interior of the bond pattern, said respective transfer and dissipation elements extending to second ends adjacent the side edges of the bond pattern between respective ones of said stress receptor elements, the stress transfer and dissipation elements directing stresses inwardly into the interior of the bond pattern, and thereby assisting in dissipating such stresses on the interior of the bond pattern.

74(Amended). An absorbent article as in Claim 73 wherein bonds corresponding to said bond elements are activated by application of thermal energy to at least one of said first and second flexible sheet materials [thin-section elements].

75(Amended). An absorbent article as in Claim 73 wherein bonds corresponding to said bond elements are activated by application of ultrasonic-frequency energy to at least one of said first and second flexible sheet materials b[thin-section elements].

76(Amended). An absorbent article as in Claim 73 wherein at least one of said first [thin-section element] and said second flexible sheet materials [thin-section element] comprises polymeric material selected from the group consisting of polyolefins [including polyethylenes and polypropylenes], polyesters, and polyamides, and copolymers, mixtures, and blends of said [such] polymeric materials.

77(Amended). An absorbent article as in Claim 73 wherein at least one of said first [thin-section element] and said second flexible sheet material [thin-section element] comprises a fibrous web having [defining] a multiplicity of randomly-spaced small openings extending from one of the respective [a] major surfaces [surface of the web] into the interior of the respective web.